

Jonathan Nieman

Senior Software Engineer & Architect | XR & Multiverse Specialist

Cross-Platform Development Leader

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EXPERIENCE

Digital Village (VLGE), Remote— Senior Engineer / Software Architect

June 2022 - June 2023

Led the Development of a Multiplatform Installer

- Conceptualized and built a multiplatform installer leveraging Dart and Flutter, facilitating seamless installation and update management for Mac and Windows desktop multiverse experiences, thereby enhancing user experience and system efficiency.
- Successfully ported the UE4 multiverse experience to MacOS, expanding the accessibility of the platform to a wider audience.

Optimized Environments for Low-Spec Machines

- Took the initiative to optimize environments to be compatible with lower-spec machines, making the multiverse experience accessible to users with varied hardware capabilities and broadening the user base.

Spearheaded Transition to Unity and WebGL for Enhanced Platform Features

- Directed a transition from UE4 to Unity and WebGL, showcasing adaptive leadership in technology shifts.
- Led a team in crafting a versatile multiverse platform that empowered users to craft unique rooms or scenes through a user-friendly world-building interface.

Led the Frontend and Backend Development of a Multiverse Platform

- Collaborated with a team of Unity developers to design the frontend builder and player applications, intertwining seamless user experiences with robust backend functionalities.
- Steered the backend development team in the creation of a robust GraphQL API and database for streamlined assets and world submissions, enhancing the platform's functionality and user engagement potential.

Pioneered WebGL Experiences for Promotional Campaigns

- Orchestrated the development of WebGL experiences for L'Oréal Makeup Group, crafting immersive promotional materials for new makeup products, and demonstrating the applicability web based experiences in promotional and marketing endeavors.

Avrio Analytics, Remote— Senior AR Engineer

August 2021 - June 2022

Spearheaded the Revitalization of Avrio's Table Top Experience (TTX) AR Product

- Revamped the TTX AR product into a versatile, easily customizable system to meet diverse client needs, leveraging the Unity Package Manager to facilitate the seamless integration of samples, template scenes, and scripts from a Git repository for future developers.
- Slashed TTX development timelines significantly, expediting product customization and enhancing user satisfaction.

Championed Cross-Platform Usability Enhancements

- Instituted cross-platform functionality for TTX, expanding its accessibility to desktop and mobile platforms and broadening the product's user base.
- Overhauled UI and interaction elements to be compatible with screen space devices, elevating the user experience and boosting product adaptability.

Developed Toolkit Libraries to Augment AR Experiences

- Formulated and curated extensive toolkit libraries, incorporating features like multiplayer game modes and connection logic, alongside UI components and spatial alignment resources for co-located AR experiences.

Mentored Team Members in Best Practices

- Cultivated a knowledge-sharing environment by coaching peers on the best practices for crafting multiplayer experiences optimized for the Magic Leap One, ensuring cross-platform functionality and fostering team development.

Enhanced Asset Management and Content Delivery

- Transitioned existing projects and assets to the Unity Addressable Asset System and Amazon S3 buckets, setting the stage for straightforward additions of future downloadable content without necessitating full app rebuilds, a critical aspect for simulating real-life scenarios in training modules for first responders.
- Contributed to reliable, efficient, and dynamic content updates, vital to Avrio's client base including federal government bodies and emergency services.

VRCenter, Asheville — Lead Unreal Engine Developer

November 2019 - June 2021

Steered High-Stakes Medical Training Simulation Projects

- Led a nimble development team to craft bespoke training solutions for financial and medical sector clients, employing Unreal Engine technology.
- Pioneered innovative interaction methods for medical instruments such as syringes and scalpels on the Quest 2 platform, enhancing the realism and intuitive feel of surgical prep simulations for burn victims.
- Enabled a leading regenerative medicine entity to upgrade training for surgical technicians with a high-fidelity application simulating their exclusive enzymatic process.

Established Comprehensive User Performance Metrics

- Integrated a sophisticated metrics system to track user performance in critical stages of simulated surgeries, feeding comprehensive data into the client's Salesforce database to facilitate refined training approaches.

Championed Development of an Immersive Shop Simulator

- Headed the creation of a cross-platform shop simulator utilizing Unreal Engine 4 for Oculus Quest and SteamVR, backed by a suite of Amazon web services and featuring innovations such as cross-platform 3D positional voice chat.
- Designed a robust API using GraphQL for dynamic retrieval and updating of player data, setting the foundation for an engaging multiplayer experience with personalized avatars and competitive high score boards.

Drove Augmented Reality Innovations for High-Profile Clients

- Conceptualized and implemented an AR demo for the Air Force, leveraging Magic Leap technology to visualize RFID tracker data in 3D space, a pivotal contribution that secured a multi-million dollar SBIR Phase 2 award.
- Contributed to Fraud Prevention Training for a Major Financial Group
- Developed a foundational 360-video application to enhance employee training in fraud detection, now a crucial tool in the client's strategy to safeguard against fraudulent transactions.

Better Than Unicorns, Asheville — Unreal Developer

Jan 2018 - November 2019

Advanced Architectural Visualization

- Produced high-quality 3D visualizations to assist architecture clients in promoting innovative circular home designs, translating architectural visions into engaging and realistic promotional materials.

Pioneered Multi-User Immersive Environments

- Designed and implemented pioneering experiences that seamlessly integrated virtual and physical realms, offering users unprecedented levels of immersion. Notable projects include a revolutionary take on table tennis, featuring a zero-gravity ball, pushing the boundaries of virtual reality experiences.

Contributed to the Creation of Sci-Fi Themed Escape Room

- Played a vital role in developing an immersive Sci-Fi themed escape room experience for the HTC Vive, showcasing proficiency in crafting themed environments that offer rich user experiences.

Personal Projects

Jan 2015 - November 2019

Innovative Game Development in Unreal Engine 4

- Independently conceived and developed a myriad of game concepts, including a kart racing VR experience for HTC Vive, a physics-based puzzle escape room, and a VR fort-building experience replete with large, destructible environments, showcasing ingenuity and a deep understanding of Unreal Engine 4.

Pioneering Hardware and Software Integration

- Engineered visual effects using a Raspberry Pi and a HUB-75 LED matrix to create distinct patterns and effects, exhibiting proficiency in hardware-software integration.
- Crafted wearable accessories equipped with addressable LED strips, connected to a microcontroller and a LiPo battery, programming them to display a variety of lighting effects for events, highlighting a knack for electronics and programming.

Classic Game Recreation with Modern Technologies

- Revisited and recreated the timeless Snake game as an Android application, using the LibGDX game development framework, demonstrating the ability to meld classic game concepts with modern development frameworks, initially as a high school senior graduation project, indicating a long-standing passion and skill in game development.

5+ years experience developing XR /
Multiverse apps using Unreal Engine 4 and
Unity

C++, C#, Java, Blueprints

Github Actions

CI/CD Pipelines

Dart + Flutter

SQL, Javascript, Python

AWS, Gamelift, DynamoDB, GraphQL, REST,
JSON, GraphQL

HTML, CSS, PHP, SASS

Linux, Android

Android Debugging

Quest 2 Performance Analysis

Strong VCS skills with Git and Perforce

Microsoft Office

Photoshop, Blender

Autodesk CAD software

FDM printing prototype designs

Vive, Vive Pro, Pico Neo, Magic Leap
One, Hololens 2, Quest 1 &2, Valve Index

UI and Sound design

Embedded electronics

DMX and LED lighting control

Magic Leap One Performance Analysis

Object Oriented Design